

VXA AUTOPAK 1x10 AUTOLOADER

INSTALLATION AND OPERATION

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PART NUMBER AND REVISION HISTORY 1009472-002

Revision	Date	Description
000	March 2002	Initial release.
001	April 2002	Added new error codes and caution about placement of autoloader.
002	January 2003	Added VXA-2

Note: The most current information about this product is available at Exabyte's web site (www.exabyte.com).

**CONTACTING
EXABYTE**

To obtain general information	
Exabyte Corporate Headquarters	Exabyte Corporation 1685 38th Street Boulder, CO USA 80301
	(303) 442-4333
To obtain technical support	
Exabyte Technical Support	1-303-417-7792
	1-303-417-7190 (fax)
World Wide Web	www.exabyte.com
To order supplies and accessories	
Exabyte Sales Support	1-800-774-7172
	1-800-392-8273 (Exabyte Media)
To return equipment for service	
Exabyte Service	1-303-417-7791 (US)
	Teleplan-800-673-5719 (Canada)
	1-303-417-7199 (fax)

Note: If it is more convenient to your location, contact Exabyte Technical Support in Europe at the following numbers:

Phone: +31-30-254-8890

Fax: +31-30-258-1582

**PRODUCT
WARRANTY
CAUTION**

The VXA AutoPak 1x10 Autoloader by Exabyte® Corporation is warranted to be free from defects in materials, parts, and workmanship and will conform to the current product specification upon delivery. For the specific details of your warranty, refer to your sales contract or contact the company from which the autoloader was purchased.

The warranty for the autoloader shall not apply to failures of any unit when:

- ▶ The autoloader is repaired by anyone other than Exabyte's personnel or approved agent.
- ▶ The autoloader is physically abused or is used in a manner that is inconsistent with the operating instructions or product specification defined by Exabyte.
- ▶ The autoloader fails because of accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, or service by anyone other than the factory service center or its approved agent.
- ▶ The autoloader is repaired by anyone, including an approved agent, in a manner that is contrary to the maintenance or installation instructions supplied by Exabyte.
- ▶ Exabyte's serial number tag is removed.
- ▶ The autoloader is damaged because of improper packaging on return.



Caution

Returning the autoloader in unauthorized packaging may damage the unit and void the warranty.

If problems with the autoloader occur, contact your maintenance organization; do not void the product warranty by allowing untrained or unauthorized personnel to attempt repairs.

**SAFETY AGENCY
STANDARDS**

The VXA AutoPak 1x10 Autoloader complies with the following domestic and international product safety standards:

- ▶ UL Standard 1950, 3rd Edition, Safety of Information Technology Equipment
- ▶ CSA Standard CAN/CSA-C22.2 No. 950-95, 3rd Edition, Safety of Information Technology Equipment
- ▶ EN 60950/A11:1997, Safety of Information Technology Equipment including Electrical Business Equipment
- ▶ IEC 60950: 1991, 2nd Edition, Safety of Information Technology Equipment including Electrical Business Equipment, including A1:1992, A2:1993, A3:1995, A4:1997

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded cables are required for this device to comply with FCC Rules. Use shielded cables when connecting this device to others.

**INDUSTRY
CANADIAN NOTICE
PER ICES-003**

English—This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Français—Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

EUROPEAN NOTICE

This equipment has been tested and complies with the following requirements:

- ▶ EN 55022/CISPR 22, Class B
- ▶ EN 55024
- ▶ EN 61000-3-2
- ▶ EN 61000-3-3

SAFETY INSTRUCTIONS

English—To complete the disconnection of electricity, please remove the power (electric) cable and the SCSI cable from their connections on the back of the Autoloader. The plugs should be placed near the Autoloader for easy access.

Deutsch—Für die vollständige Trennung vom Netz, bitte Netzkabel und die SCSI Kabel aus den Anschlüssen auf der Rückseite des Autoloaders ziehen. Die Steckdose muss nah am Autoloader angebracht und leicht zugänglich sein.

Español—Para la completa desconexión de la electricidad, Por favor jale el cable de la electricidad y el cable SCSI de las conexiones que se encuentran en la parte posterior del Autoloader. Los enchufes tienen que colocarse cerca del Autoloader y de fácil acceso.



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HOW TO USE THIS MANUAL

This manual describes how to install, configure, operate, maintain, and troubleshoot the VXA AutoPak 1x10 Autoloader by Exabyte Corporation.

INSTALLATION

If you are installing the autoloader for the first time, refer to the following chapters:

- ▶ **Chapter 1** provides an overview of the autoloader's features and components. **Appendix A** lists additional autoloader specifications.
- ▶ **Chapter 2** provides instructions for installing the autoloader hardware, connecting the autoloader to the SCSI bus, and powering on the autoloader.

OPERATION

During normal autoloader operations, you do not need to intervene in cartridge processing. However, you may need to refer to the following chapter for occasional tasks:

- ▶ **Chapter 3** describes how to use the autoloader's operator panel, how to insert and remove cartridges, and how to clean the tape drive.

TROUBLESHOOTING AND SERVICE

If you need troubleshooting and service information, refer to these chapters:

- ▶ **Chapter 4** provides information about performing basic maintenance. It also explains how to return the autoloader for service, if necessary.
- ▶ **Appendix B** lists autoloader error codes and suggested corrective actions.

CONTACTING EXABYTE

If you need to contact Exabyte for supplies, technical support, or service, see Contacting Exabyte on **page iii**.

RELATED PUBLICATIONS

For information about the autoloader and the standards used by the autoloader, refer to the following publications. To order an Exabyte publication, see Contacting Exabyte on **page iii**. To download a PDF version of an Exabyte publication, visit the Exabyte web site at www.exabyte.com.

VXA AUTOPAK 1x10 AUTOLOADER

- ▶ *VXA AutoPak 1x10 Autoloader Quick Start Guide*, 1009477
- ▶ *VXA AutoPak 1x10 Autoloader Product Specification*, 1009457
- ▶ *VXA AutoPak 1x10 Autoloader SCSI Reference*, 1009458
- ▶ *Installing an Exabyte VXA AutoPak 1x10 Autoloader into a Rack*, 1009856

VXA-1 SCSI TAPE DRIVE

- ▶ *VXA-1 SCSI Tape Drive Quick Start Guide, 1009338*
- ▶ *VXA-1 Tape Drive Product Manual, 1009146*
- ▶ *VXA-1 Tape Drive SCSI Reference, 125.00086*

VXA-2 SCSI Tape Drive

- ▶ *VXA-2 SCSI Tape Drive Quick Start Guide, 1009540*
- ▶ *VXA-2 Tape Drive Product Manual, 1009541*
- ▶ *VXA-2 Tape Drive SCSI Reference, 1009566*

STANDARDS

- ▶ *Standard ECMA-316 8mm Wide Magnetic Tape Cartridge for Information Interchange—Helical Scan Recording—VXA-1 Format, December, 2000*
- ▶ *ANSI Small Computer System Interface - 2 (SCSI-2), X3.131-1994*
- ▶ *ANSI SCSI-3 Primary Commands, X3.301:1997*
- ▶ *ANSI SCSI-3 Medium Changer Commands (SMC), NCITS.314:1998*
- ▶ *ANSI SCSI-3 Fast20 Parallel Interface (Fast-20), X3.277 – 1996*
- ▶ *ANSI SCSI Parallel Interface-2 (SPI-2), X3.302:1998*
- ▶ *TapeAlert Specification, Version 2.0, November, 1997*
- ▶ *IEC 60297 Rack Standards*

CONVENTIONS USED IN THIS MANUAL

This manual uses the following conventions:

 Boxed text indicates keys on the operator panel.

Note: Notes provide additional information or suggestions about the topic or procedure being discussed.



Information next to the word “Important” helps you complete a procedure or avoid extra steps.



Caution

Text next to the word “Caution” provides information you must know to avoid damaging the autoloader or tape drive or losing data.



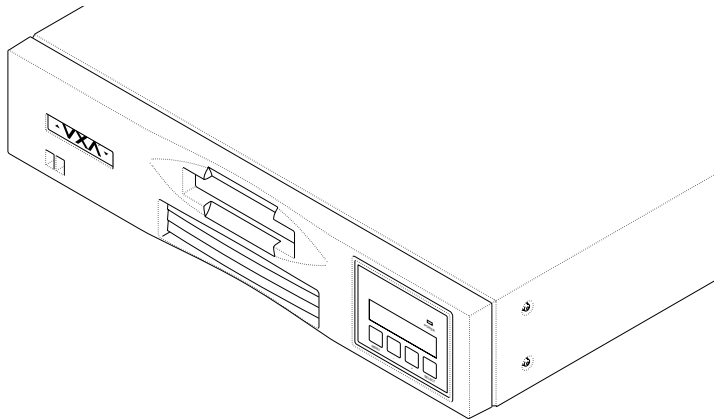
Warning

Text next to the word “Warning” provides information you must know to avoid personal injury.

PRODUCT OVERVIEW

Congratulations on selecting the VXA AutoPak 1x10 Autoloader by Exabyte Corporation. Your new autoloader provides unattended data storage, archiving, backup, and retrieval for small PC workgroups to multi-server networks.

The autoloader includes an Exabyte VXA-1 or VXA-2 tape drive. With the VXA-1 tape drive, the autoloader can achieve a data transfer rate of up to 21.6 GB per hour (assuming a 2:1 compression ratio) and can store up to 660 GB of compressed data. With the VXA-2 tape drive, the autoloader can achieve a data transfer rate of up to 43.2 GB per hour (assuming a 2:1 compression ratio) and can store up to 1,600 GB of compressed data.



ABOUT THE VXA AUTOPAK 1x10 AUTOLOADER

The VXA AutoPak 1x10 Autoloader includes one VXA-1 or VXA-2 tape drive. Up to 10 data cartridges can be stored in cartridge slots mounted on a carousel that encircles the tape drive. The autoloader automatically moves the cartridges between the slots and the tape drive.

The autoloader and the enclosed tape drive are available in a wide, low-voltage differential (LVD) SCSI configuration. The autoloader operates as two separate SCSI devices (the tape drive and the autoloader) on one wide SCSI bus.

As an option, a bar code reader can be added to the VXA-2 AutoPak. The autoloader uses the bar code reader to read bar code labels on the data cartridges. The autoloader stores the bar code information as part of its cartridge inventory. Bar code reader kits are available from Exabyte.

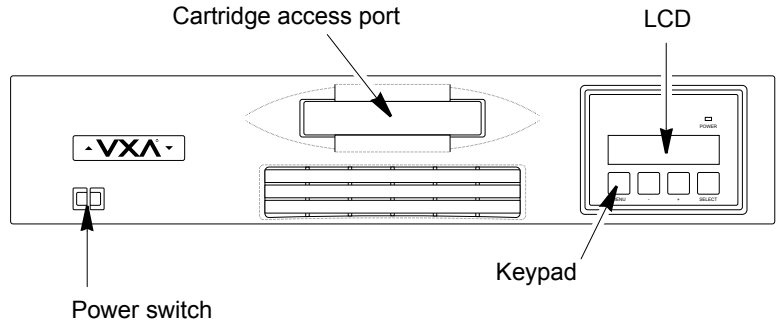
The autoloader is designed as a standalone unit. If you want to mount the autoloader in a rack, you can order a rack-mount kit from Exabyte. The kit includes all the hardware you need to mount the autoloader in a standard 19-inch rack.

To order kits, cartridges, and other accessories from Exabyte, see [Contacting Exabyte on page iii](#).

AUTOLOADER COMPONENTS

This section provides an introduction to the physical components of your autoloader.

FRONT PANEL COMPONENTS



Power Switch

The power switch allows you to turn power on and off for the autoloader and the enclosed tape drive. The switch is recessed into the front panel to prevent the autoloader from being accidentally turned off during operation.

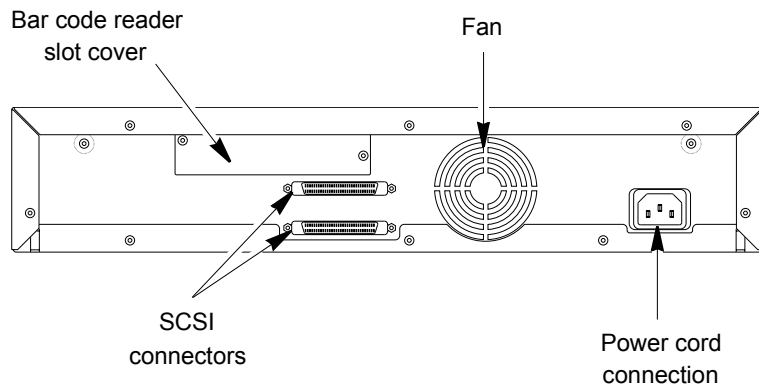
Operator Panel (LCD and Keypad)

The operator panel includes a four-button keypad and a two-line, 32-character liquid crystal display (LCD). You can use the operator panel to view autoloader status and information, set configuration options, and access a menu of operations.

Cartridge Access Port

The cartridge access port allows you to insert or remove cartridges from the autoloader.

BACK PANEL COMPONENTS



Bar Code Reader Slot Cover

As an option, a bar code reader can be installed in the VXA-2 AutoPak. The bar code reader kit, available from Exabyte, provides all the necessary hardware for installing the reader.

Power Cord Connection

The power cord connection provides AC power to the autoloader and the tape drive.

Fan

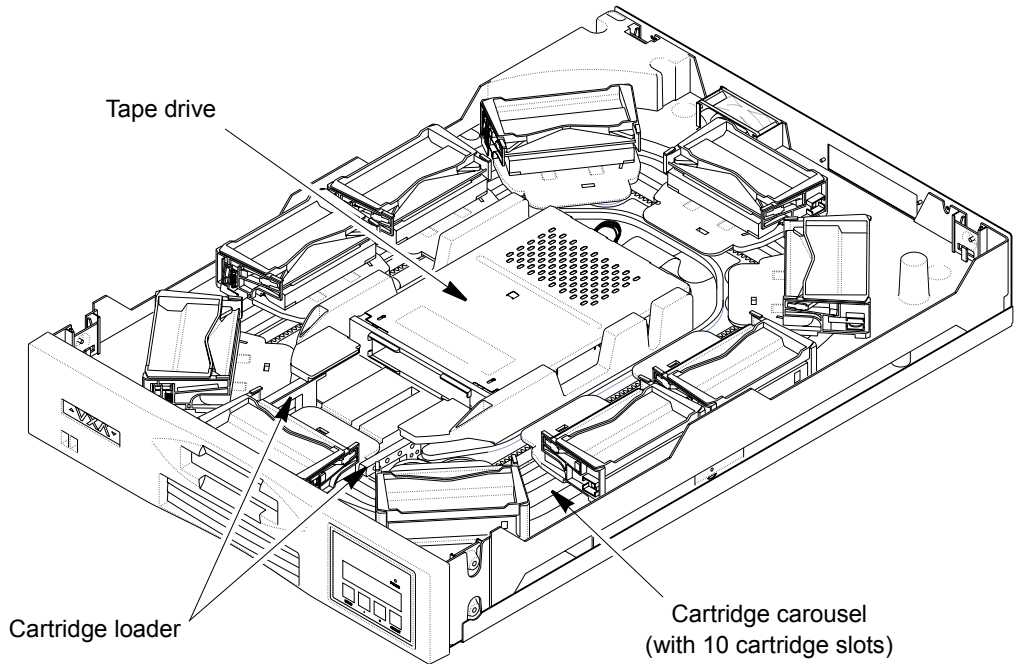
The system fan provides cooling for the autoloader and the tape drive.

SCSI Connectors

The autoloader has two wide SCSI connectors for connecting the autoloader and tape drive to a single SCSI bus. The connectors can accommodate either of the following:

- ▶ A shielded male, high-density wide (68-pin) SCSI cable
- ▶ A wide external LVD terminator

INTERNAL COMPONENTS



Tape Drive

The autoloader contains one VXA-1 or VXA-2 tape drive. The VXA-1 tape drive can sustain a maximum data transfer rate of 21.6 GB per hour and can store up to 66 GB of compressed data on a single VXAtape V17 data cartridge (assuming an average compression ratio of 2:1). The VXA-2 tape drive can sustain a maximum data transfer rate of 43.2 GB per hour and can store up to 160 GB of compressed data on a single VXAtape V23 data cartridge (assuming an average compression ratio of 2:1).

Cartridge Carousel

The autoloader's cartridge carousel stores up to ten data cartridges. The carousel consists of a drive chain, guides, and gears that move the cartridges into position in front of the tape drive. Each cartridge is installed in a cartridge slot that ensures that the cartridge is properly aligned to be inserted into the tape drive.

Cartridge Loader

The cartridge loader moves cartridges between the cartridge slots and the tape drive. When a cartridge slot is positioned in front of the tape drive, the loader grips the sides of the cartridge and slides it forward or backward between the slot and tape drive. The loader then releases the cartridge and pushes it firmly into the drive or slot.

2

INSTALLATION

This chapter describes how to install the autoloader, which includes the following steps:

- ▶ Obtaining accessories and equipment
- ▶ Preparing for installation
- ▶ Installing a bar code reader in the VXA-2 autopak (optional)
- ▶ Installing the autoloader in a rack (optional)
- ▶ Connecting the autoloader to the SCSI bus
- ▶ Connecting the power cord
- ▶ Powering on the autoloader
- ▶ Changing the SCSI IDs (if necessary)
- ▶ Changing the autoloader's emulation mode (if necessary)
- ▶ Verifying the installation

! Important

After unpacking the autoloader, save all the original packing materials in case you need to ship or move the autoloader later.

OBTAINING ACCESSORIES AND EQUIPMENT

Make sure you have all the accessories and equipment for autoloader installation, as indicated in the table below. If necessary, you can purchase these items from Exabyte (see [Contacting Exabyte on page iii](#)).

Accessories and equipment	
Power cord	Included with the autoloader. If you need to use a different power cord, see page 53 .
SCSI cable	Included with the autoloader. If you want to use your own SCSI cable or terminator, see page 54 for requirements.
SCSI bus terminator	
Cartridges	Contact Exabyte to purchase data cartridges and cleaning cartridges. See page 9 for information about the appropriate cartridges to use.
Bar code reader (VXA-2 AutoPak only)	If you want to install the optional bar code reader in the VXA-2 AutoPak, contact Exabyte for the required kit. The kit includes sample bar code labels for your cartridges.
Rack-mount hardware	If you want to install the autoloader in a rack, contact Exabyte for the required kit.

SELECTING DATA AND CLEANING CARTRIDGES

VXA-1 and VXA-2 tape drives read and write to VXAtape data cartridges. The cartridges are available in four tape lengths, listed in the following table. Note that the VXA-1 tape drive does not support the V23 tape.

VXAtape Cartridge	VXA-1 Capacity Native/Compressed ^a	VXA-2 Capacity Native/Compressed ^a
V6 (62m)	12/24 GB	20/40 GB
V10 (107m)	20/40 GB	40/80 GB
V17 (170m)	33/66 GB	59/118 GB
V23 (230m)	Not supported	80/160 GB

^a Assuming a 2:1 compression ratio. Actual compressed capacity varies depending on the type of data being recorded.

Following a regular cleaning schedule for your tape drive will maximize the reliability of your drive and the life of your VXAtape data cartridges. To clean your tape drive, use only VXAtape Cleaning Cartridges, available from Exabyte.

SELECTING APPLICATION SOFTWARE

To obtain information about which software applications and operating systems work with the autoloader, visit Exabyte's web site (www.exabyte.com).

You can install the software application on the host computer before or after autoloader installation. However, if you install the software first, you may need to reconfigure it for use with the autoloader.

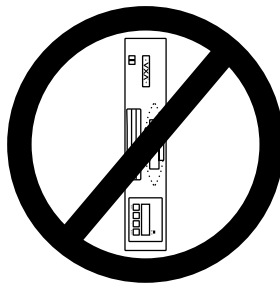
PREPARING FOR INSTALLATION

Before you begin installation, do the following:

- ▶ Determine where you are going to place the autoloader, keeping the following information in mind.



Caution



Do not place the autoloader on its side. The autoloader must operate in a horizontal position.

Do not place any objects on top of the autoloader weighing a total of more than 5 kg (11 pounds), including other autoloaders.

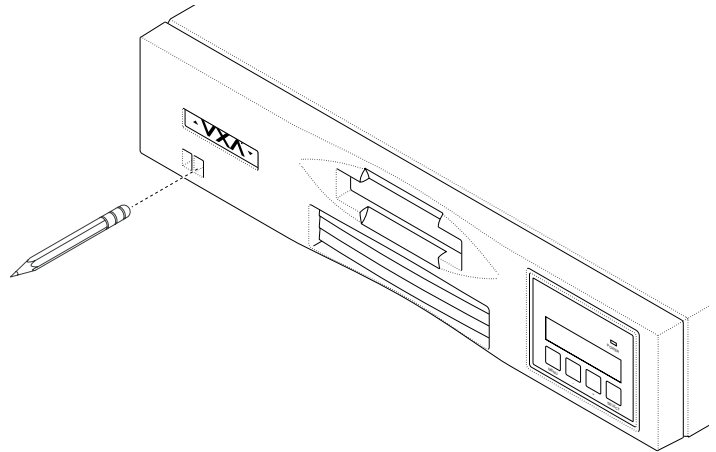
Significant damage to the autoloader can occur if you attempt to operate it in these ways. If you need to save space, you can install multiple autoloaders in a rack with each unit secured by support rails.

- ▶ Make certain the SCSI host bus adapter card installed in the host computer and the application software are compatible with the autoloader. Compatibility information is available from www.exabyte.com.
- ▶ Ensure that the work area is free from conditions that could cause electrostatic discharge (ESD). Discharge static electricity from your body by touching a known grounded surface, such as a computer's metal chassis.

**Warning**

Before performing any installation or maintenance procedures, be sure that the autoloader's power switch is off and that the power cord is disconnected from the autoloader and the outlet.

The figure below shows the location of the power switch. Make sure that the switch is in the off position (the right side of the switch is pressed). Use the eraser end of a pencil or a similar object to press the switch.



INSTALLING A BAR CODE READER IN THE VXA-2 AUTOPAK (OPTIONAL)

As an option, you can install a bar code reader in the VXA-2 AutoPak to enable the autoloader to maintain bar code information as part of its cartridge inventory.

Note: The bar code reader option is available only for the VXA-2 AutoPak.

Follow the steps in this section to install the optional bar code reader in the VXA-2 AutoPak. To install the bar code reader, you will need the following:

- ▶ Bar code reader kit (available from Exabyte)
- ▶ Small flat-blade screwdriver

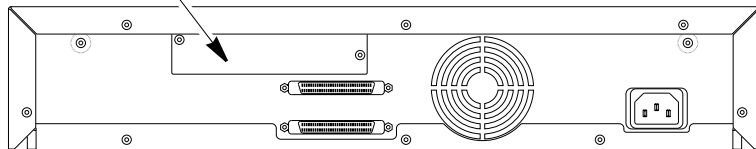


Warning

Before performing the following steps, be sure that the autoloader's power switch is off and that the power cord is disconnected from the autoloader and the outlet.

1. Disconnect the SCSI cables or cable and terminator from the autoloader.
2. Using a small flat-blade screwdriver, remove the cover plate from the bar code reader slot. Save the two screws.

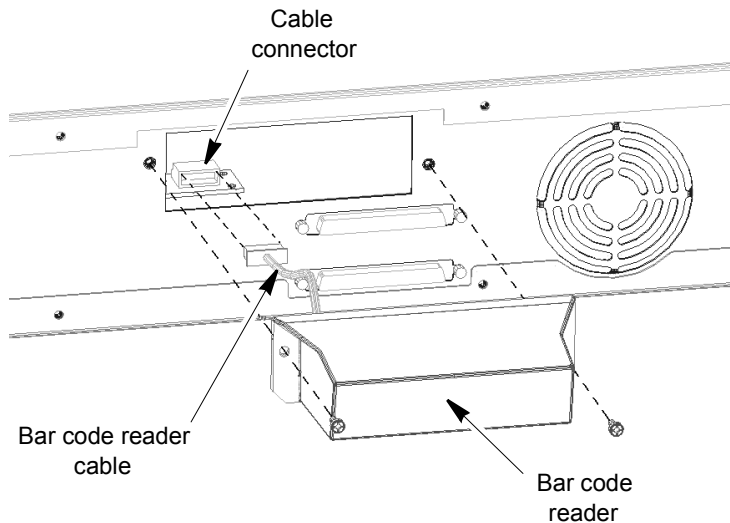
Bar code reader
slot cover



! Important

Save the cover plate. If you remove the bar code reader later, you will need to replace the cover plate to operate the autoloader.

3. Position the bar code reader in front of the slot as shown in the following figure. Make sure that the screw holes in the bar code reader align with the screw holes in the back panel.



4. Connect the bar code reader cable to the connector just inside the slot.
5. Attach the bar code reader to the back panel with the two screws from the cover plate.
6. Reconnect any cables you disconnected from the autoloader.

When you power on the autoloader, the bar code reader will automatically be detected by the host system.

INSTALLING THE AUTOLOADER IN A RACK (OPTIONAL)

If you plan to use your autoloader in a rack and have obtained the rack-mount kit from Exabyte, install the autoloader in the rack now. Instructions are provided on the autoloader CD.

CONNECTING THE AUTOLOADER TO THE SCSI BUS

This section provides general guidelines for connecting the autoloader to the SCSI bus. The SCSI bus includes all of the SCSI cables connecting the peripheral SCSI devices to a host bus adapter card in the host computer.

The autoloader includes two SCSI devices: the autoloader itself and the tape drive. Each device uses a wide, low-voltage differential (LVD) SCSI configuration. Up to 16 devices can be connected to a wide LVD SCSI bus.

Note: Although the LVD SCSI interface is compatible with single-ended SCSI, Exabyte does not support connecting the autoloader to a single-ended SCSI bus.



Caution

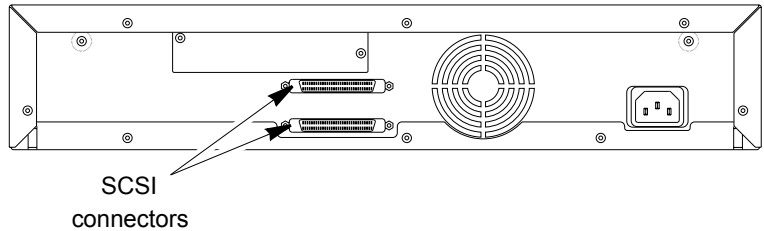
Do not connect the autoloader to a high-voltage differential (HVD) SCSI bus. Doing so may cause damage to the autoloader or other devices on the bus.

Before connecting the autoloader to the SCSI bus:

- ▶ Make sure you have the necessary SCSI cable and terminator. For SCSI cable and terminator specifications, see [page 54](#). If you need to order any of these items, see [Contacting Exabyte on page iii](#).
- ▶ Power off the host computer and any peripheral devices.
- ▶ Make certain that the autoloader is powered off.

To connect the autoloader to the SCSI bus:

1. Connect the host computer's SCSI cable to one of the autoloader's SCSI connectors. The location of the autoloader's SCSI connectors is shown below.

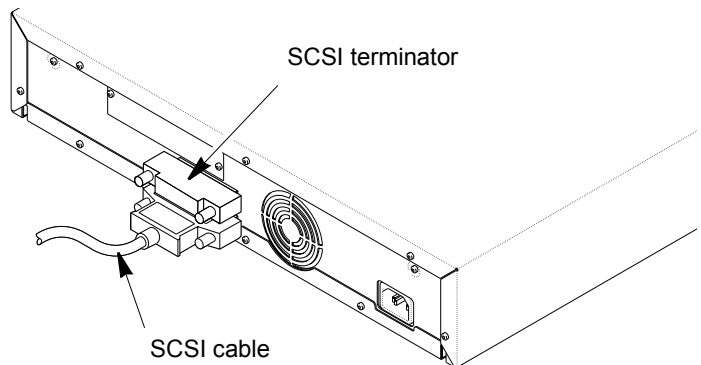


! Important

When you attach the SCSI cables to the SCSI connectors, tighten the SCSI cable jack screws to no more than 2.0 inch-pounds (2.3 kg-cm) of torque.

2. If the autoloader is the last device on the SCSI bus, install a terminator on the unused SCSI connector. If the autoloader is not the last device on the bus, connect another SCSI cable from the autoloader's SCSI connector to the next device on the bus. For the device at the physical end of the bus, install a terminator on one of the SCSI connectors for that device.

The following illustration shows how to connect the autoloader as the last device on a SCSI bus.



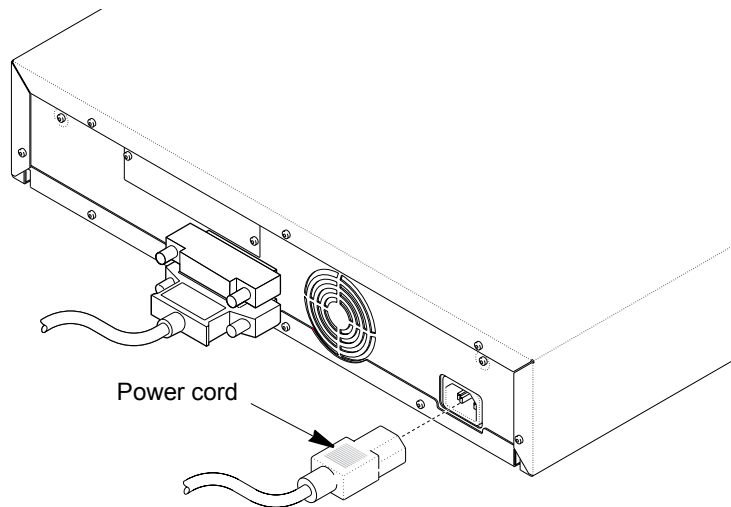
CONNECTING THE POWER CORD

! Important

The power cord shipped with the autoloader is a 120 VAC three-conductor power cord for use in the United States and Canada. If you plan to use an input voltage other than 120 volts AC, or if you plan to use the autoloader outside of the United States or Canada, you must supply your own power cord. See [page 53](#) for power cord requirements.

To connect the power cord:

1. Make sure that the power switch on the front of the autoloader is off (the right side of the switch is pressed). Use the eraser end of a pencil or a similar object to press the switch.
2. Connect the female end of the power cord to the power connector on the back of the autoloader.



3. Connect the male end of the power cord to the power outlet.

POWERING ON THE AUTOLOADER

To power on the autoloader:

1. Power on the host computer system.

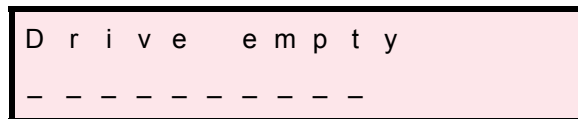
Note: If your host system requires that attached peripheral devices be powered on before the host, power on the autoloader before you power on the host.

2. Push the power switch on the front of the autoloader to the on position (press the left side of the switch). Use the eraser end of a pencil or a similar object to press the switch.

Wait while the autoloader performs its power-on sequence. During this time, the following activities occur:

- ▶ The cooling fan begins to operate.
- ▶ The LCD and Power LED illuminate.
- ▶ The tape drive and the autoloader perform self-tests.
- ▶ The autoloader scans each cartridge slot to determine if cartridges are present.

After the power-on sequence is finished, the LCD appears as follows:



At the initial power-on, there should be no cartridges in the autoloader or tape drive. The 10 dashes (—) represent each of the cartridge slots and indicate that they are empty.



CHANGING THE SCSI IDs

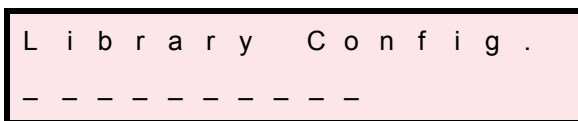
Each device on a SCSI bus must have a unique SCSI ID so that it can be identified by the host computer. The autoloader and the enclosed tape drive use separate IDs on the SCSI bus so that they can receive different sets of commands. The default SCSI IDs are the following:

- ▶ Autoloader – 0
- ▶ Tape drive – 5

You can use the default IDs or change them if they conflict with other devices on the SCSI bus.


To change the SCSI IDs:

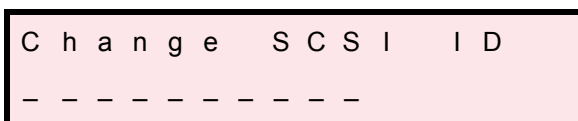
1. With the autoloader powered on, press the  or  button on the operator panel until the following screen appears:



Library Config .
- - - - -

The dashes (–) indicate empty cartridge slots.

2. Press the  button to select the Library Configuration menu. The following screen appears:



Change SCSI ID
- - - - -

3. Press the **SELECT** button to select the Change SCSI ID command. The following screen appears:

```
C h a n g e   S C S I   I D
L o a d e r
```

You can switch between Loader and Drive by pressing the **[-]** or **[+]** button.

4. When the appropriate device name appears, Loader in this example, press the **SELECT** button. The following screen appears:

```
C h a n g e   L o a d e r   I D
N e w   S C S I   I D :   0
```

The number displayed is the current SCSI ID.

5. Press the **[-]** or **[+]** button until the desired ID appears.
6. Press the **SELECT** button to select the new ID. The following screen appears:

```
C Y C L E   P O W E R
F O R   N E W   S C S I   I D
```

7. Power the autoloader off and back on. The new SCSI ID takes effect.
8. Repeat these steps if you need to change the SCSI ID for the other device (loader or drive).

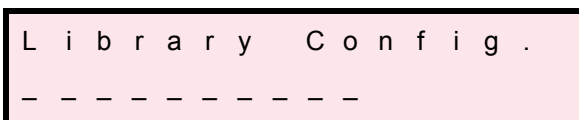
CHANGING THE EMULATION MODE

You may need to change the autoloader's emulation mode if your backup application does not support the VXA AutoPak.

By default, the autoloader returns "VXA AutoPak 1x10" in response to a SCSI INQUIRY command from the application. Changing the emulation mode causes the autoloader to return "EXB-210" instead. Because most backup applications have built-in support for the Exabyte 210 library, changing the emulation mode allows these applications to support the autoloader.

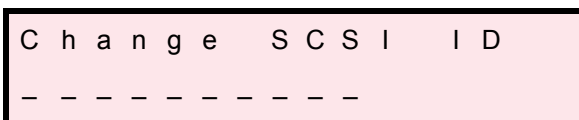
To change the emulation mode:

1. With the autoloader powered on, press the **[-]** or **[+]** button on the operator panel until the following screen appears:



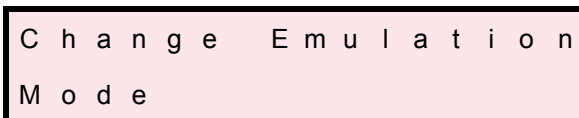
A rectangular screen with a light pink background and a black border. The text "Library Configuration" is displayed in a monospaced font, with each letter separated by a space. Below the text is a horizontal line consisting of 15 dashes.

2. Press the **[SELECT]** button to select the Library Configuration menu. The following screen appears:



A rectangular screen with a light pink background and a black border. The text "Change SCSI ID" is displayed in a monospaced font, with each letter separated by a space. Below the text is a horizontal line consisting of 15 dashes.

3. Press the **[-]** or **[+]** button until the following screen appears:



A rectangular screen with a light pink background and a black border. The text "Change Emulation Mode" is displayed in a monospaced font, with each letter separated by a space. The text is arranged in two lines: "Change Emulation" on the top line and "Mode" on the bottom line.

4. Press the **SELECT** button to select the Change Emulation Mode command. The following screen appears:

```

P r o d u c t   I D :
A u t o P a k
  
```

The screen shows the current emulation mode.

5. Switch between AutoPak and EXB-210 by pressing the **[-]** or **[+]** button.
6. When the appropriate product ID appears, press the **SELECT** button. The following screen appears:

```

C Y C L E   P O W E R   F O R
N E W   E M U L .   M O D E
  
```

7. Power the autoloader off and back on. The new emulation mode takes effect.

VERIFYING THE INSTALLATION

If the autoloader does not power on and operate as expected, check the following:

- ✓ **Power.** Is the autoloader's power cord inserted correctly, and is the power switch on? Is the host computer system turned on?
- ✓ **SCSI bus connections.** Make sure that you have securely connected the SCSI cables or cable and terminator to the SCSI connectors on the back of the autoloader. Make sure that the SCSI connections to the host computer and other devices on the bus are also secure.

- ✓ **SCSI bus termination.** Make sure your bus is properly terminated as described on [page 15](#). If another SCSI device previously terminated the SCSI bus and is no longer at the physical end of the bus, be sure to remove the terminators from that device.
- ✓ **SCSI IDs.** Make sure that the SCSI IDs you selected for the tape drive and autoloader are not the same as the ID used by any other SCSI device on the bus, including the SCSI adapter card. Refer to [page 18](#) for information about setting the SCSI IDs.
- ✓ **LVD and HVD SCSI devices.** Because the autoloader is an LVD device, all other devices on the SCSI bus should also be LVD. Do not connect an HVD device to an LVD bus.
- ✓ **Narrow and wide SCSI.** Because the autoloader is a wide SCSI device, all other devices on the bus must also be wide. Or, you must use wide-to-narrow adapters.
- ✓ **SCSI cable lengths.** Make sure that the SCSI cabling does not exceed maximum bus lengths (see [page 54](#)).
- ✓ **Compatibility.** Make sure that your tape drive and autoloader are compatible with the SCSI adapter card and application software you plan to use. Visit Exabyte's web site at www.exabyte.com for compatibility information.
- ✓ **SCSI adapter card installation.** Make sure that you installed your SCSI adapter card correctly. Refer to the documentation that came with your card for installation and troubleshooting instructions. Pay special attention to steps describing setting various jumpers and switches on the card. Make sure that the card is properly seated.

- ✓ **Software installation.** Make sure that your application software is installed and configured correctly. Refer to the documentation that came with your software. Pay special attention to steps describing configuring the software for use with the autoloader and tape drive.
- ✓ **Autoloader error code.** Is there an error code displayed on the autoloader's LCD? See **Appendix B** for error code explanations and corrective actions.

If you cannot resolve any problem yourself, contact Exabyte (see **page iii**).

Notes

3

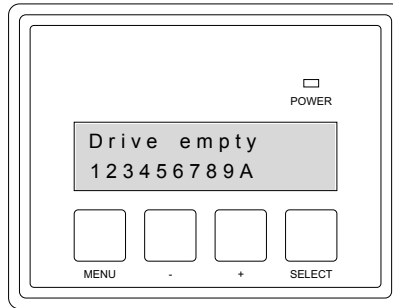
AUTOLOADER OPERATION

During normal operation, the autoloader processes cartridges without operator intervention. After installing your autoloader, you will need to add and replace cartridges periodically and perform routine tape drive cleanings. Instructions for these tasks are provided in the following sections:

- ▶ Using the operator panel
- ▶ Inserting and removing cartridges
- ▶ Cleaning the tape drive
- ▶ Troubleshooting operational problems

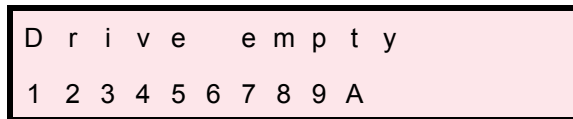
USING THE OPERATOR PANEL

The autoloader includes a two-line LCD and keypad, called the operator panel, that allows you to monitor and control autoloader operations. Using the operator panel (shown in the following figure), you can issue commands, view statistics, and test autoloader operations.



STATUS SCREEN

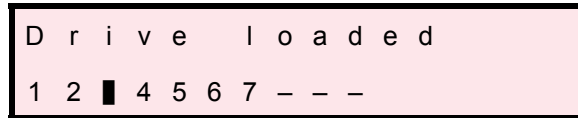
During normal operation, the Status Screen appears on the LCD:



The numbers in the second line of the display represent the autoloader's ten cartridge slots. (A is the tenth slot.) If a cartridge is in the slot, the slot number appears. If the slot is empty, a dash (–) appears. In the example above, the tape drive is empty and all of the slots contain cartridges.

If a slot number is highlighted with a flashing box, the cartridge from that slot is being processed. It is either loaded in the tape drive, or it is being imported or exported through the cartridge access port.

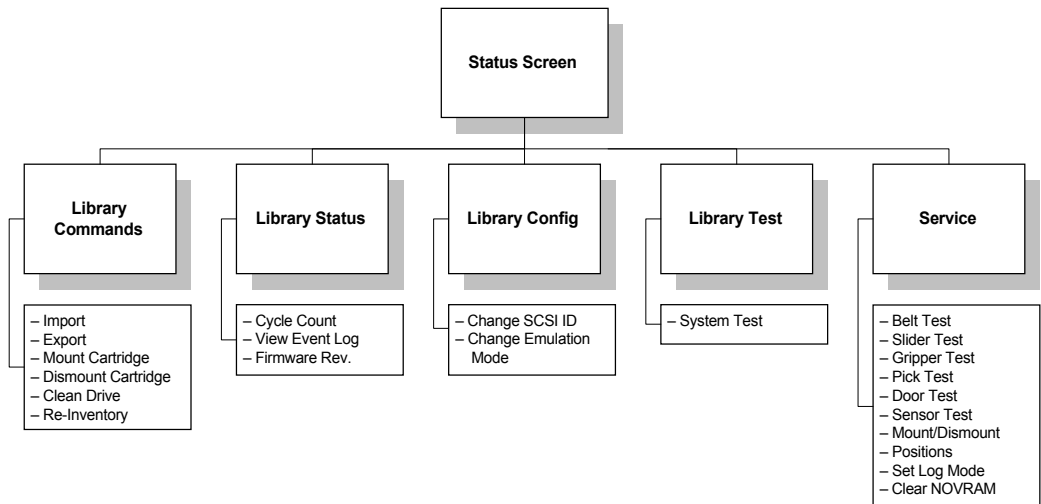
In the example below, the Status Screen indicates that the tape drive is processing the cartridge from slot 3, and slots 8, 9, and 10 (A) are empty.



MENUS

To access menu items through the operator panel, you use the **+** and **-** buttons to scroll through selections and the **SELECT** button to select items. To return to a previous menu level, you press the **MENU** button.

The autoloader's menu structure is shown below.



The following table provides an overview of the menus.

Menu selection	Description
Library Commands	The Library Commands menu allows you to issue commands to import and export cartridges in the autoloader, load or unload a cartridge from the drive, and clean the drive.
Library Status	The Library Status menu is typically used by technical support and service personnel only. It displays the autoloader's cycle count (the number of times a cartridge has been moved from a slot to the drive and back), an event log documenting errors, and the autoloader's firmware version.
Library Config	The Library Configuration menu allows you to change the SCSI IDs for the autoloader and tape drive, and set the autoloader's emulation mode.
Library Test	The Library Test menu allows you to test autoloader functions or run demos.
Service	The Service menu is typically used by technical support and service personnel only. It provides commands that can be used to test individual autoloader functions. If you encounter problems with your autoloader that you cannot resolve using the guidelines in this manual, you may be instructed by Exabyte Technical Support to perform tests through this menu. Technical Support will provide instructions for accessing the menu and running the tests.

Note: From any menu, the LCD automatically returns to the Status Screen after approximately three minutes of inactivity (no buttons being pressed).

INSERTING AND REMOVING CARTRIDGES

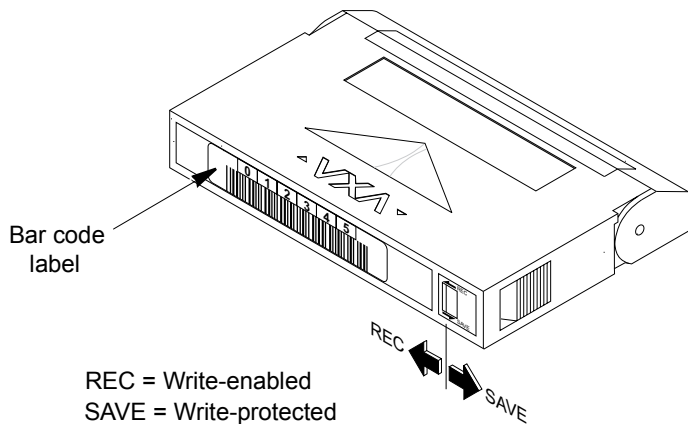
If you have already obtained your cartridges (see [page 9](#)), you can insert them in the autoloader as described in this section. Tips for storing cartridges after you remove them from the autoloader are provided at the end of this section.

Note: For convenience, you can use one of the cartridge slots in the autoloader to store a cleaning cartridge for the tape drive. Refer to *“Cleaning the Tape Drive”* on [page 36](#) for information that will help you determine whether you want to store a cleaning cartridge in the autoloader.

PREPARING CARTRIDGES

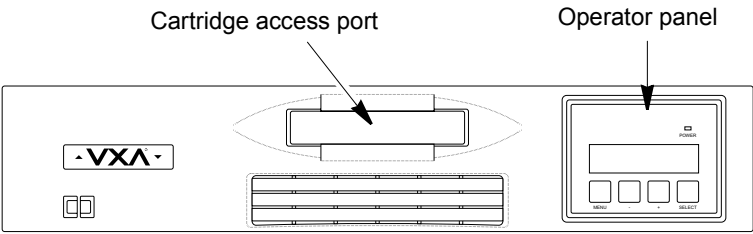
Before inserting cartridges into the autoloader, prepare them as follows:

1. If you are using the optional bar code reader with the VXA-2 AutoPak, affix bar code labels to the cartridges. Position each label as shown in the following figure.
2. Set the write-protect switch on each cartridge for the desired operation, as shown in the following figure.



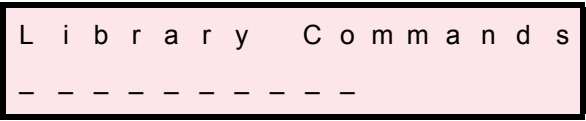
INSERTING CARTRIDGES IN THE AUTOLOADER

To insert cartridges into the autoloader, you use the operator panel and the cartridge access port.



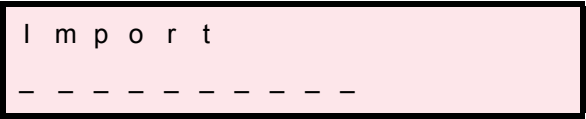
To insert cartridges:

1. With the autoloader powered on, press the **[-]** or **[+]** button on the operator panel until the following screen appears:



The dashes (--) indicate empty cartridge slots.

2. Press the **[SELECT]** button to select the Library Commands menu. The following screen appears:



Import is the first item in the Library Commands menu. (You can scroll through the other commands by pressing the **[-]** and **[+]** buttons.)

3. Press the **SELECT** button to select the Import command. The following screen appears:

```
Import to :  
Slot 1
```

You can start with slot 1 or press the **[-]** or **[+]** buttons to choose a different slot. The slots are numbered 1 through A. (A is the tenth slot.)

4. When the desired slot number is displayed, Slot 1 in this example, press the **SELECT** button. The following message appears:

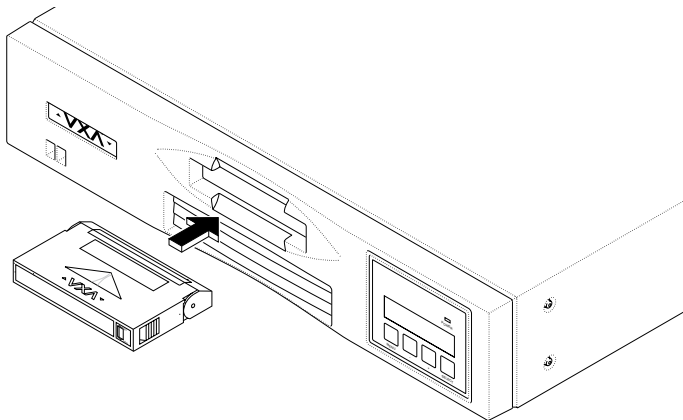
```
Prepositioning . .  
1 - - - - -
```

Note: The slot number is highlighted with a flashing box.

When the specified slot is in place behind the cartridge access port door, the door slides open and the following message appears:

```
Insert Cartridge  
Slot 1
```

5. Position the cartridge with the VXA logo up and the write-protect switch towards you, as shown below.






6. Slide the cartridge into the access port until the end of the cartridge facing you is approximately flush with the opening. The cartridge loader pulls the cartridge the rest of the way into the autoloader, and the door closes. The loader places the cartridge in the specified slot then moves the next slot into position behind the cartridge access port door. The following screen appears:

```

I m p o r t   t o :
S l o t   2



```

7. Continue importing cartridges in the same manner until you have filled as many slots as you want. You can skip slots by pressing the  or  buttons. You do not have to fill all the slots or fill them contiguously.
8. Return to the Library Commands screen by pressing the  button twice.

Note: The LCD automatically returns to the Status Screen after approximately three minutes of inactivity.

REMOVING CARTRIDGES FROM THE AUTOLOADER


To remove cartridges from the autoloader:

1. With the autoloader powered on, press the  or  button on the operator panel until the following screen appears:

```



L i b r a r y   C o m m a n d s
1 2 3 4 5 6 7 8 9 A
  
```

The numbers represent full cartridge slots.

2. Press the  button to select the Library Commands menu. The following screen appears:


```

I m p o r t
1 2 3 4 5 6 7 8 9 A
  
```

3. Press the  or  button until the following screen appears:



```

E x p o r t
1 2 3 4 5 6 7 8 9 A
  
```

4. Press the  button to select the Export command. The following screen appears:

```

E x p o r t   f r o m :
S l o t    1
  
```

You can start with slot 1 or press the  or  buttons to choose a different slot.

5. When the desired slot number is displayed, Slot 1 in this example, press the **SELECT** button. The following message appears:

```
P r e p o s i t i o n i n g . .
1 2 3 4 5 6 7 8 9 A
```

Note: Slot 1 is highlighted with a flashing box.

When the specified slot is in place behind the cartridge access port door, the door slides open and the cartridge emerges. The following message appears:

```
R e m o v e   C a r t r i d g e
P r e s s   S e l e c t
```



Caution

The access port provides air flow through the autoloader. To ensure that proper cooling is maintained, do not leave a cartridge in the access port for an extended period of time.

6. Remove the cartridge, then press the **SELECT** button. The door closes, and the following screen appears:

```
E x p o r t   f r o m :
S l o t   2
```

7. Continue removing cartridges in the same manner until you have removed as many cartridges as necessary.

8. Return to the Library Commands screen by pressing the **MENU** button twice.

Note: The LCD automatically returns to the Status Screen after approximately three minutes of inactivity.

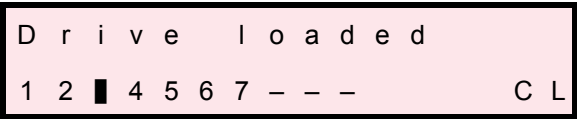
TIPS FOR STORING CARTRIDGES

Whenever you remove cartridges from your autoloader, be sure to store them properly to maximize archival life and ensure data integrity. Follow these guidelines for proper cartridge storage:

- ▶ **Store cartridges in a suitable environment.** Follow the specifications for storage temperature and other environmental requirements, as described on the cartridge packaging. Do not allow the temperature and humidity in the storage environment to fluctuate.
- ▶ **Keep the storage location as free of airborne particulates as possible.** To eliminate obvious sources of particulates, do not permit anyone to smoke, eat, or drink near the storage area, and do not store cartridges near a copier or printer that may emit toner and paper dust.
- ▶ **Store cartridges with the write-protect switch in the protected position.** (See [page 29](#).)
- ▶ **Store cartridges as soon as possible after you remove them from the autoloader.** Immediate storage helps avoid many of the conditions that can damage tapes, such as temperature and humidity fluctuation, particulate contamination, and excessive handling.

CLEANING THE TAPE DRIVE

Regular cleaning helps maintain optimal performance of the tape drive and maximizes the life of your VXAtapes. When the tape drive needs cleaning, the letters “CL” appear on the right side of the autoloader’s LCD, as shown below.



“CL” remains on the LCD while other messages are displayed until the drive is cleaned. To help maintain data integrity and reliability, you should clean the tape drive as soon as possible after the “CL” message appears.

Note: The tape drive can also report its cleaning requirements to the backup application program. Your application may notify you when the tape drive needs cleaning. Refer to your application documentation for more information.

To clean your tape drive, use VXAtape Cleaning Cartridges only.



Caution

Do not use cleaning cartridges other than a VXAtape Cleaning Cartridge. Using other types of cleaning cartridges will void your warranty. Carefully follow all instructions and recommendations provided with the cleaning cartridge.



There are two approaches to cleaning the tape drive: You can insert a cleaning cartridge through the cartridge access port when needed, or you can store a cleaning cartridge in one of the autoloader's cartridge slots. Use the following tables to determine which approach best meets your needs:

Inserting a Cleaning Cartridge When Needed		Storing a Cleaning Cartridge in the Autoloader	
Advantages	Disadvantages	Advantages	Disadvantages
<ul style="list-style-type: none"> Full 10-cartridge capacity of autoloader is available for data storage. 	<ul style="list-style-type: none"> You have to locate your cleaning cartridge when needed. If all 10 slots are in use, you have to export a cartridge to make room for the cleaning cartridge. The cleaning procedure involves more steps. 	<ul style="list-style-type: none"> Your cleaning cartridge is always located with the autoloader. 	<ul style="list-style-type: none"> You have to remember which slot your cleaning cartridge is in. The autoloader's data-storage capacity is reduced by one cartridge. Some software applications may not support reserving a slot for a cleaning cartridge.

The following sections describe the steps involved in both cleaning methods.

CLEANING METHOD – INSERTING A CLEANING CARTRIDGE WHEN NEEDED


To clean the tape drive by inserting a cleaning cartridge:

1. With the autoloader powered on, press the  or  button on the operator panel until the following screen appears:

```



L i b r a r y   C o m m a n d s
1 2 3 4 5 6 7 8 9 A
  
```

Your screen may look different depending on the location of cartridges in your autoloader.

2. Press the  button to select the Library Commands menu. The following screen appears:

```

I m p o r t
1 2 3 4 5 6 7 8 9 A
  
```

3. If all of the autoloader's slots are full, export one cartridge to make room for the cleaning cartridge. Refer to ["Removing Cartridges from the Autoloader" on page 33](#).
4. At the menu of commands, press the  or  button until the following screen appears:

```

C l e a n   D r i v e
- 2 3 4 5 6 7 8 9 A
  
```

In this example, a cartridge has been removed from slot 1 to make room for the cleaning cartridge.

5. Press the **SELECT** button to select the Clean Drive command. If the empty slot is not already positioned behind the cartridge access port door, the autoloader moves it into position. The cartridge access port door opens, and the following screen appears:

I	n	s	e	r	t	C	a	r	t	r	i	d	g	e
S	l	o	t	1										

6. Slide the cleaning cartridge into the cartridge access port. The cartridge loader pulls the cartridge into the autoloader, and the door closes.

The cartridge loader then loads the cleaning cartridge into the tape drive, and the drive automatically performs the cleaning procedure, which takes less than a minute.

When the cleaning is finished, the drive ejects the cleaning cartridge, and the cartridge loader repositions it behind the cartridge access port door.



! Important

If there are no more cleaning cycles remaining on the cleaning cartridge, the tape drive ejects the cartridge without performing the cleaning and returns the cartridge through the cartridge access port door. Remove the cleaning cartridge and use a new one. **Do not rewind and reuse the material in a cleaning cartridge. Reusing the material may redistribute contaminants previously removed from the tape path.**

7. When the cartridge access port door opens, remove the cleaning cartridge, then press the **SELECT** button.
8. If you removed a data cartridge from the autoloader to make room for the cleaning cartridge, replace that cartridge. Refer to *"Inserting Cartridges in the Autoloader"* on page 30.

CLEANING METHOD – STORING A CLEANING CARTRIDGE IN THE AUTOLOADER


To clean the tape drive with a cleaning cartridge stored in the autoloader:

1. With the autoloader powered on, press the  or  button on the operator panel until the following screen appears:

```



L i b r a r y   C o m m a n d s
1 2 3 4 5 6 7 8 9 A
  
```

Your screen may look different depending on the location of cartridges in your autoloader.

2. Press the  button to select the Library Commands menu. The following screen appears:


```

I m p o r t
1 2 3 4 5 6 7 8 9 A
  
```

3. Press the  or  button until the following screen appears:




```

M o u n t   C a r t r i d g e
1 2 3 4 5 6 7 8 9 A
  
```

4. Press the  button to select the Mount Cartridge command. The following screen appears:

```

M o u n t   C a r t r i d g e :
S l o t   1
  
```

5. Press the  or  buttons to choose the slot containing the cleaning cartridge.
6. Press the  button. The autoloader positions the selected slot in front of the tape drive then loads the cleaning cartridge into the drive. The drive automatically performs the cleaning operation, which takes less than a minute.

When the cleaning is finished, the drive ejects the cleaning cartridge. The cartridge loader replaces it in its original slot.

! Important

If there are no more cleaning cycles remaining on the cleaning cartridge, the tape drive ejects the cartridge without performing the cleaning. Remove the cleaning cartridge and use a new one. **Do not rewind and reuse the material in a cleaning cartridge. Reusing the material may redistribute contaminants previously removed from the tape path.**

TROUBLESHOOTING OPERATIONAL PROBLEMS



If the autoloader encounters an error, it displays an error code on the LCD. Refer to [Appendix B](#) for error code explanations and corrective actions.

TESTING THE AUTOLOADER

After correcting an error, you can run a test from the front panel to check autoloader functions. During the test, the autoloader successively picks each cartridge from its slot, loads it into the drive, waits for it to unload, then replaces it in its slot. The autoloader continues the test until you stop it.

Note: You can also use the test function to run autoloader demos.

To run the autoloader test:


1. Make sure that the autoloader contains at least one cartridge. If the Status Screen shows dashes for all of the cartridge slots, import at least one cartridge into the autoloader as described on [page 30](#).
2. Press the  or  button until the following screen appears:

L	i	b	r	a	r	y	T	e	s	t
1	2	3	4	5	6	7	8	9	A	

Your screen may look different depending on the location of cartridges in your autoloader.

3. Press the  button. The following screen appears:

S	y	s	t	e	m	T	e	s	t
1	2	3	4	5	6	7	8	9	A

4. Press the  button to begin the test. The following screen appears:

D	r	i	v	e	e	m	p	t	y
T	e	s	t	C	o	u	n	t	0

The autoloader picks the first available cartridge and loads it into the tape drive. It waits for the cartridge to be unloaded and ejected from the tape drive, then returns the cartridge to its original slot. The autoloader then picks the next cartridge and repeats the process, incrementing the test count each time.

5. To stop the test, press the **MENU** button. The autoloader completes the operation in progress, then displays the Status Screen:

D	r	i	v	e		e	m	p	t	y
1	2	3	4	5	6	7	8	9	A	

Notes

4

MAINTENANCE AND SERVICE

This chapter describes the following:

- ▶ Using touch-up paint on the housing
- ▶ Cleaning the autoloader
- ▶ Returning the autoloader for service



Caution

Unless you have a self-maintenance contract with Exabyte, do not attempt to replace any components in the autoloader. If you do so, you will void your warranty.

USING TOUCH-UP PAINT ON THE HOUSING

A paint kit is available for touching up nicks and scratches on the finish. For ordering information, see Contacting Exabyte on [page iii](#).

CLEANING THE AUTOLOADER

The only autoloader component that should be cleaned is the tape drive. Instructions for cleaning the tape drive are provided on [page 36](#).



Caution

The autoloader's internal components are lubricated at the factory and should not be cleaned or relubricated.

RETURNING THE AUTOLOADER FOR SERVICE

If you need to return the autoloader to the factory for service, contact your service provider. If your service provider instructs you to return the autoloader directly to Exabyte, contact Exabyte Technical Support to obtain a Return Materials Authorization (RMA) number and the shipping address (see [page iii](#)). When you have the RMA number, follow the instructions below.

PREPARING THE AUTOLOADER FOR SHIPPING

To prepare the autoloader for shipping:

1. Remove all of the cartridges from the autoloader. (See [page 33](#) for instructions.)
2. Power off the autoloader by pressing the right side of the recessed power switch located on the autoloader's front panel. Use the eraser end of a pencil or a similar object to press the switch.

3. Remove the following from the autoloader:

- ▶ Power cord
- ▶ SCSI cables
- ▶ SCSI terminator
- ▶ Bar code reader (see [page 12](#))

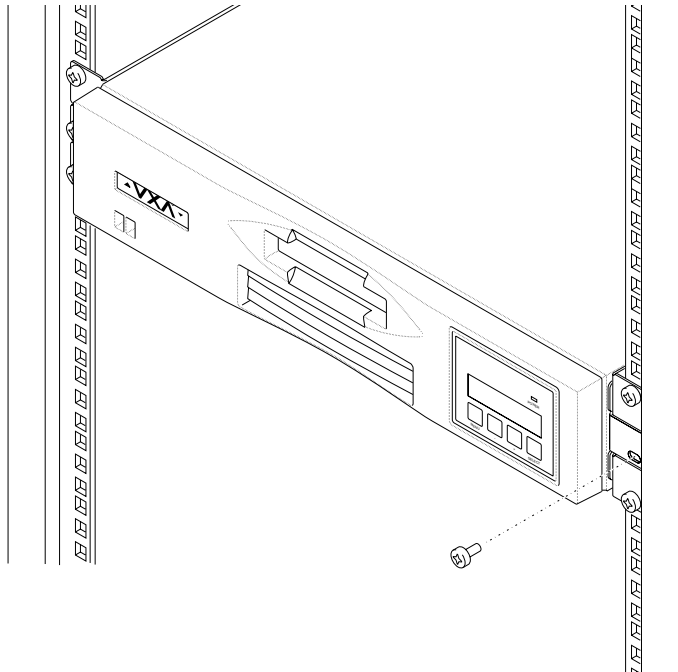
! Important

Do not ship these items if you are returning the autoloader for service.

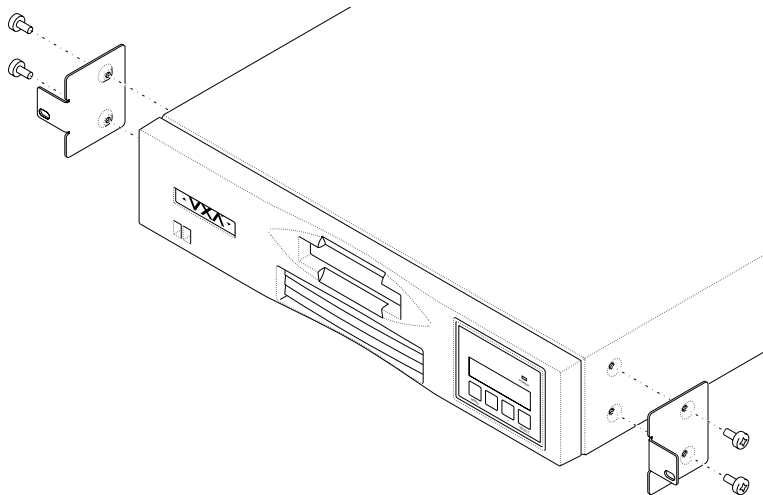
REMOVING THE AUTOLOADER FROM A RACK

If the autoloader is installed in a rack, remove it as follows:

1. From the front of the autoloader, use a large Phillips screwdriver to remove the screws (one on each side) securing the autoloader to the rack. Save the screws.



2. Slide the autoloader forward and out of the rack.
3. Using a small flat-blade or TORX screwdriver, remove the screws (two on each side) holding the rack-mounting brackets to the sides of the autoloader. Remove the brackets and save them.



4. Place the screws that were holding the brackets back in the autoloader. Be careful not to overtighten the screws.

PACKING THE AUTOLOADER

! Important

If you are returning the autoloader for service, be sure to remove the cartridges, power cord, SCSI cables, SCSI terminator, and bar code reader from the autoloader. Do not ship these items when returning the autoloader for service.

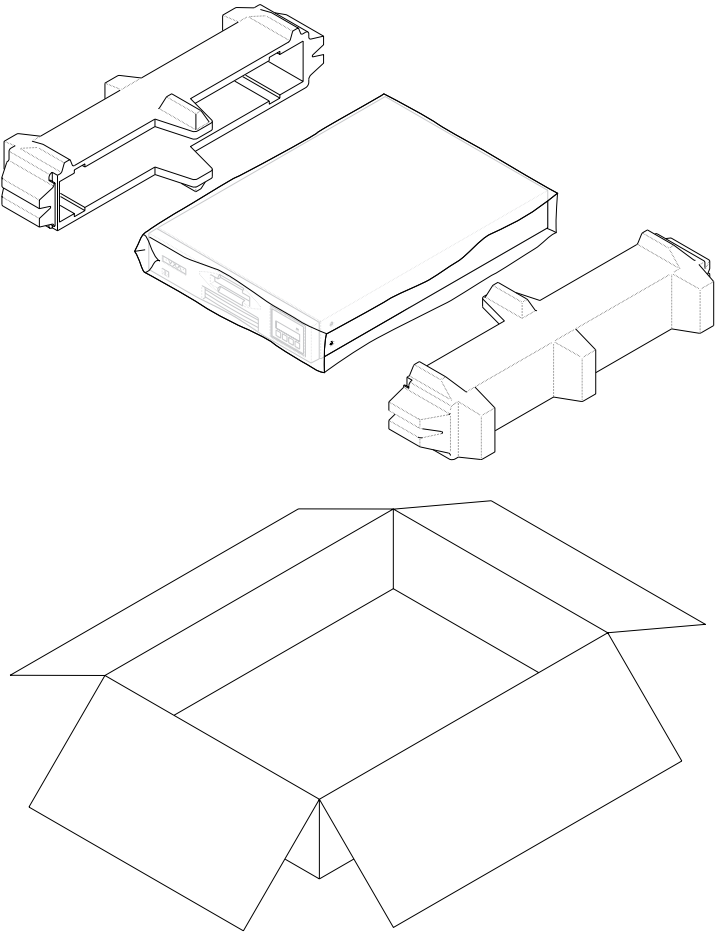
Use the original packing materials to pack the autoloader (shipping box, packing pieces, and plastic bag). You will also need packing tape.

**Caution**

To avoid damaging the autoloader and voiding your warranty, be sure to use the original shipping materials (or replacement materials obtained from your vendor) when repacking and shipping the autoloader. Do not use the shipping carton and packing materials to ship items other than the autoloader.

To pack the autoloader:

1. Place the autoloader inside the plastic bag.
2. Put the foam packing pieces on the sides of the autoloader, as shown in the following figure. Align the slots in the packing pieces with the rubber feet on the bottom of the autoloader.
3. Set the autoloader into the shipping box.
4. Place any necessary paperwork on top of the autoloader.
5. Close and seal the box.
6. Place the shipping label on the box.



A

SPECIFICATIONS

This appendix provides overall specifications for the autoloader, power cord requirements, SCSI cable specifications, and SCSI terminator requirements.

OVERALL SPECIFICATIONS FOR THE AUTOLOADER

Interface	
Interface	SCSI Ultra-2 LVD wide
Speed and Capacity	
Maximum sustained data transfer rate (autoloader with VXA-1)	6 MB per second (21.6 GB per hour) assuming a 2:1 data compression ratio
Maximum data capacity (autoloader with VXA-1)	660 GB on ten VXAtape V17 cartridges, assuming a 2:1 data compression ratio
Maximum sustained data transfer rate (autoloader with VXA-2)	12 MB per second (43.2 GB per hour) assuming a 2:1 data compression ratio
Maximum data capacity (autoloader with VXA-2)	1,600 GB on ten VXAtape V23 cartridges, assuming a 2:1 data compression ratio
Size and Weight	
Size (Length × Width × Depth)	24.0 × 16.9 × 3.3 inches (60.9 × 42.9 × 8.4 cm)
Weight	19.5 pounds (8.8 kilograms) without cartridges installed
Operating Environment	
Ambient temperature	+10°C to +35°C (50°F to +95°F)
Relative humidity	20% to 80%, non-condensing
Wet bulb	+26°C (+79°F) max
Power	
Input voltages	100 to 240 VAC ±10%, 47 to 63 Hz
Power consumption while operating	35 watts, average
Heat output while operating	119.4 BTU/hour

POWER CORD REQUIREMENTS

The autoloader is shipped with a seven-foot (2.1 meter), 18 AWG, 3-conductor AC power cord for 120-volt use in the United States and Canada. The power cord has a molded NEMA 5-15P male connector on one end and a molded IEC 320/EN 60320 female connector on the other end. The power cord is UL Listed and CSA Certified. If you are planning to use an input voltage other than 120 volts AC or if you plan to use the autoloader outside of the United States or Canada, you must supply your own power cord, as described below.

Criteria for U. S. and Canadian 220 VAC power cord:

- ▶ The power cord must have a molded NEMA 6-15P attachment plug on one end.
- ▶ The power cord must have a molded IEC 320/EN 60320 female connector on the other end.
- ▶ The cordage must be an SJT or SVT type, 3-conductor, 18 AWG minimum.
- ▶ The power cord must comply with local electrical code.

Criteria for an international 220 VAC power cord:

- ▶ The power cord must have an attachment plug of the proper type, rating, and safety approval for the intended country.
- ▶ The power cord must have an IEC 320/EN 60320 female connector on one end.
- ▶ The flexible cord must be harmonized to CENELEC publication HD-21. The electrical characteristics and rating must be minimum H05VVF3G0.75 (6 A).

SCSI CABLE AND TERMINATOR SPECIFICATIONS

This section describes the autoloader's SCSI cable and terminator requirements.

SCSI CABLES

Exabyte recommends using wide LVD SCSI cables that conform to SCSI-3 specifications.

! Important

To comply with the regulations and standards listed at the front of this book, all SCSI cables you use with the autoloader must be properly shielded.

SCSI CABLE LENGTH

The maximum allowable cable length for an LVD SCSI bus, including all internal and external cables, is 12 meters (39 feet) when you have more than two devices on the bus. Because the autoloader is two SCSI devices, any bus the autoloader is attached to must meet this length restriction.

To determine the cable length of the bus, measure the lengths of all external SCSI cables. Add those lengths together. To that sum, add 68 centimeters (26.8 inches) for the internal cable length used by the autoloader and its tape drive.

SCSI TERMINATOR

Exabyte recommends using an active Fast 160 SE/LVD Multi-mode SCSI terminator. Termination must be external; do not use internal terminators.

B

ERROR CODES


This appendix describes the error codes that appear on the autoloader's LCD and provides suggested corrective actions.



Caution

Autoloader components can be replaced only by Exabyte-approved service providers. If you cannot find an obvious cause for the problem, contact your service provider. Unless you have a self-maintenance contract, do not attempt to replace any components. If you do, you will void your warranty.

The following table lists autoloader error conditions in numerical order. If the suggested corrective action does not clear the error, contact Exabyte Technical Support or your service provider.



Caution Some corrective actions advise you to power the autoloader off and back on. To avoid disrupting communication between the host computer and other devices on the SCSI bus, make sure that there is no SCSI activity on the bus before you power off the autoloader.

LCD Code	Description	Corrective Action
80	No error.	No corrective action required.
81	Invalid command. The autoloader's robotics received an undefined command or an invalid parameter.	Re-try the operation.
82	Busy. The autoloader's robotics are not ready to perform the requested operation.	Wait until the autoloader has finished its current operation, then re-try the requested operation.
83	Inventory not valid. The cartridge inventory is not valid because of manual intervention or a previous error.	Use the Re-inventory command in the Library Commands menu to update the cartridge inventory.
84	Source element empty. There is no cartridge in the specified slot.	Install a cartridge in the slot, or pick a cartridge from another location.
85	Destination element full. A cartridge is already present in the destination location.	Remove the cartridge from the destination, or redirect the cartridge to another location.

LCD Code	Description	Corrective Action
86	PREVENT MEDIA REMOVAL command failed. A PREVENT MEDIA REMOVAL command issued by the backup application failed because the autoloader's door was open.	Reissue the PREVENT MEDIA REMOVAL command from the backup application after the autoloader's door is closed.
87	Timeout.	Power the autoloader off and back on.
89	Timeout during autoloader system test.	Power the autoloader off and back on.
8F	No error after loader recovery.	No corrective action required.
90	Mechanical initialization failure. The robot was unable to move to its initialization position.	Power the autoloader off and back on.
91	Scan failure. An error occurred during the cartridge inventory process.	Use the Re-inventory command in the Library Commands menu to re-do the cartridge inventory.
92	Pre-position failure. A positioning error occurred in the cartridge carousel.	Power the autoloader off and back on. Re-try the operation.
93	Cartridge mount error. The autoloader couldn't load the cartridge into the drive because of a mechanical problem.	Power the autoloader off and back on. Re-try the operation.
94	Cartridge dismount error. A failure occurred during cartridge removal and transport back to the slot.	Power the autoloader off and back on. Re-try the operation.
95	Import error. The autoloader was unable to complete the import of a new cartridge.	Power the autoloader off and back on. The autoloader attempts to place the cartridge in the next free slot.

LCD Code	Description	Corrective Action
96	Export error. An error occurred during the export of a cartridge.	Power the autoloader off and back on. Re-try the operation.
A0	Belt axis error. Position not found during cartridge carrier movement.	Power the autoloader off and back on. Re-try the operation.
A1	Slider axis error. Transport slider unable to reach estimated position.	Power the autoloader off and back on. Re-try the operation.
A2	Gripper position error. Gripper unable to reach position.	Power the autoloader off and back on. Re-try the operation.
A3	Cartridge pick error. The cartridge was missed during a pick operation.	Power the autoloader off and back on. Re-try the operation.
A4	Door function error. The cartridge access port door was not in the requested position.	Check the door slot. Power the autoloader off and back on.
A5	Fan error. The autoloader's fan is not functioning correctly.	Return the autoloader to the factory to have the fan replaced. See page 46 for instructions.
B0	ROM error.	Power the autoloader off and back on. Re-try the operation.
B1	RAM error.	
B2	NVRAM error.	
B3	CTC error.	
B4	UART error.	
B5	Display error.	
B6	Memory error.	
BA	Tape load timeout. The tape drive took longer than 3 minutes to load a tape.	Wait until the tape drive is no longer busy, then issue a Dismount Cartridge command from the operator panel. Clean the tape drive and retry the operation. If the error still occurs, replace the cartridge with a new one.
BB	Tape unload timeout. The tape drive took longer than 3.5 minutes to unload a tape.	

LCD Code	Description	Corrective Action
BC	Temperature too high. The tape drive's temperature limit has been exceeded.	Power off the autoloader and allow it to cool. Power it back on and re-try the operation. Check the room temperature. The ambient temperature must be no more than 35°C (95°F).
BD	No connection to drive. The autoloader and drive are not communicating.	Power the autoloader off and back on. Re-try the operation.
BE	Generic drive response error. An unexpected command was rejected by the tape drive.	Power the autoloader off and back on. Re-try the operation.
BF	Drive broken. The tape drive requires service.	Contact Exabyte Technical Support or your service provider.

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EXABYTE LIMITED WARRANTY

Exabyte Corporation ("Exabyte") warrants to the original purchaser ("Purchaser") that this computer product ("Product") is free from manufacturing defects in material and workmanship for a period of three (3) years from the date of shipment to Exabyte's authorized dealer. In order to receive in-warranty service, defective Product must be returned to the authorized Exabyte dealer from whom you purchased the Product. Product must be accompanied by a copy of Exabyte's dealer's bill of sale evidencing the date of purchase, the unit serial number and a complete explanation of the problem. Purchaser must prepay all shipping and insurance charges to return any defective Product under this warranty policy. Exabyte, at its discretion, may use new, refurbished, or reconditioned replacement parts to perform any warranty repair or replacement of Products. Exabyte also reserves the option to replace the entire Product with a comparable Product or refund the then-current purchase price of the Product. Exabyte Products or parts that are replaced or repaired under this warranty are warranted for the remaining unexpired portion of the original warranty period. If your authorized Exabyte dealer fails to provide this warranty service, Purchaser is advised to contact Exabyte at the address on this page for instructions about how to obtain warranty service. This constitutes Purchaser's sole and exclusive remedy in the event of a defect. Warranty registration must be completed and verified prior to any warranty claims. The On-Site Service election, if available, is optional coverage that provides on-site service to the original equipment warranty on certain Products. On-Site Service may be purchased from Exabyte directly or via an authorized Exabyte dealer. Unless the On-Site Service option is available and has been selected by the customer at the time of purchase, all warranty repair work or inspections shall be performed at an Exabyte approved facility. On-Site Service does not commence until a completed application and purchase order have been received and approved. This limited warranty covers defects encountered in the normal use of the Product during the warranty period and does not apply under the following conditions: Product is damaged due to physical abuse, mishandling, accident, negligence or failure to follow operating instructions; Product is modified by Purchaser in any manner other than that for which it was intended or otherwise approved by Exabyte, including, but not limited to tempering, ruggedizing, and/or militarizing the Product; damage or defects caused by the use of unauthorized parts or by unauthorized service; the Product has been subject to unsuitable operating or physical conditions outside those recommended in Product specifications as provided by Exabyte; Product has its serial numbers altered or removed; or Product is damaged due to improper packaging of the warranty return to the Exabyte dealer or Exabyte. With respect to items manufactured or supplied by a third party which are sold by Exabyte, you shall be the beneficiary of the manufacturer's warranty, if any, SUBJECT TO THE LIMITATIONS STATED THEREIN. Copies of such manufacturer's warranties will be made available upon request. EXABYTE DISCLAIMS AND EXCLUDES ALL WARRANTIES WITH RESPECT TO SUCH ITEMS. In the event software is provided hereunder, Exabyte warrants that, for a period of ninety (90) days from the date of shipment to Exabyte's authorized dealer, the media on which any software is provided are free from defects in material and workmanship under normal use and that the software recorded therein is properly recorded. Exabyte does not warrant that the functions contained in the software will meet customer's requirements, that software will be free from defects or that the operation of the software will be uninterrupted or error free. Software is provided on an "AS IS" basis.

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ADVANCED EXCHANGE SERVICE OPTION

The ADvanced EXchange (ADEX) Service may be purchased by customers needing a replacement unit within 24 hours of receiving a Return Material Authorization (RMA) number from Exabyte Service Support.

With the ADvanced EXchange Service option, Exabyte will ship a completely reconditioned replacement unit (same configuration as customer's purchased unit) to the customer before receiving the defective unit back from the customer. This ADEX unit will become the customer's unit; Exabyte will not return the original unit to the customer. The remaining warranty on the original unit will apply to the ADEX unit.

The ADEX unit will usually ship on the day you request it. If it does not go out on the day you request it, it will ship the following business day, subject to availability. Although Exabyte will ship the ADEX unit to you by best way 2 day, Exabyte cannot guarantee the arrival of the ADEX unit on the following business day. Exabyte can provide waybill numbers so you can work with the carrier on any delivery problems. All deliveries shall be F.O.B. Exabyte's shipping point.

Exabyte requires a credit card number or purchase order prior to shipping an ADEX unit. **You must agree to ship the original unit back to Exabyte, using the ADEX packaging which includes the return ship label, within 10 business days from the time you receive your replacement.** If Exabyte does not receive your original unit within 2 weeks we will charge your credit card or invoice you for the ADEX unit at the retail purchase price.

Upon receipt of the original/defective unit, Exabyte will issue a credit to you for the ADEX unit charge.

The ADEX Service Option is available in North America and Europe and applies to Exabyte-labeled products purchased from authorized Exabyte resellers only.

To take advantage of the ADvanced EXchange Service Option you need only ask for the ADEX option when speaking to the Service Support representative while processing your RMA.

For more information, contact Exabyte Service Support at 1-303-417-7791.